

KUSTOM[®]

OWNER'S MANUAL

Ardent™

MODEL Ardent™ 12M
PASSIVE MONITOR SPEAKER



Congratulations on the purchase of your new Kustom Ardent™ PA speaker. Being both portable and powerful, your new Ardent™ speaker offers excellent sound quality and performance characteristics. Inside this manual, you'll find detailed information regarding this product's features. We wish you many years of enjoyment with your new Kustom Ardent™ 12M.

ENGLISH

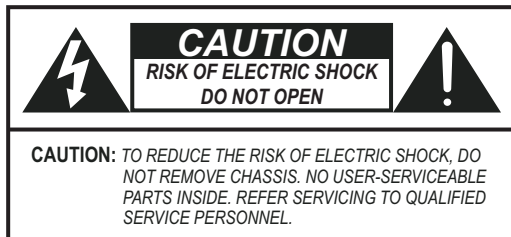
Danger

Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

DURATION PER DAY (HOURS)	8	6	4	3	2	1
SOUND LEVEL (dB)	90	93	95	97	100	103

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of inducing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.



AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.




THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.



APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

IMPORTANT SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. Bath tub, sink, swimming pool, wet basement, etc.
6. Only use dry cloth to clean this product.
7. Do not block any ventilation openings, It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
8. Do not install this product near any heat sources ;such as,radiators, heat registers, stove or other apparatus (including heat producing amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other.A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord being walked on or pinched, particularly at Plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving cart/ apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as, power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
16. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

FRENCH

Danger

L'exposition a des niveaux eleves de bruit peut provoquer une perte permanente de l'audition, Chaque organisme humain reagit differemment quant a la perte de l'audition, mais quasiment tout le monde subit une diminution de l'acuite auditive lors d'une exposition suffisamment longue au bruit intense. Les autorites competentes en reglementation de bruit ont defini les expositions tolerees aux niveaux de bruits:

DURE EN HEURES PAR JOUR	8	6	4	3	2	1
INIVEAU SONORE CONTINU EN dB	90	93	95	97	100	103

Selon les autorites, toute exposition dans les limites citees ci-dessus, peuvent provoquer certaines pertes d'audition. Des bouchons ou protections dans l'appareil auditif ou sur l'oreille doivent etre portes lors de l'utilisation de ce systeme d'amplification afin de prevenir le risque de perte permanente de l'audition, Dans le cas d'expositions superieures aux limites precitees il est recommande, afin de se premunir contre les expositions aux pressions acoustiques elevees potentiellement dangeureuses, aux personnes exposees aux equipements capables de delivrer de telles puissances, tels ce systeme d'amplification en fonctionnement, de proteger l'appareil auditif.



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE DE VOLTAGE DANGEREUX NON-ISOLE A L'INTERIEUR DE CE PRODUIT QUI PEUT ETRE DE PUISSANCE SUFFISAMMENT IMPORTANTE POUR PROVOQUER UN CHOC ELECTRIQUE AUX PERSONNES.



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE D'INSTRUCTIONS D'UTILISATION ET DE MAINTENANCE DANS LES DOCUMENTS FOURNIS AVEC CE PRODUIT.



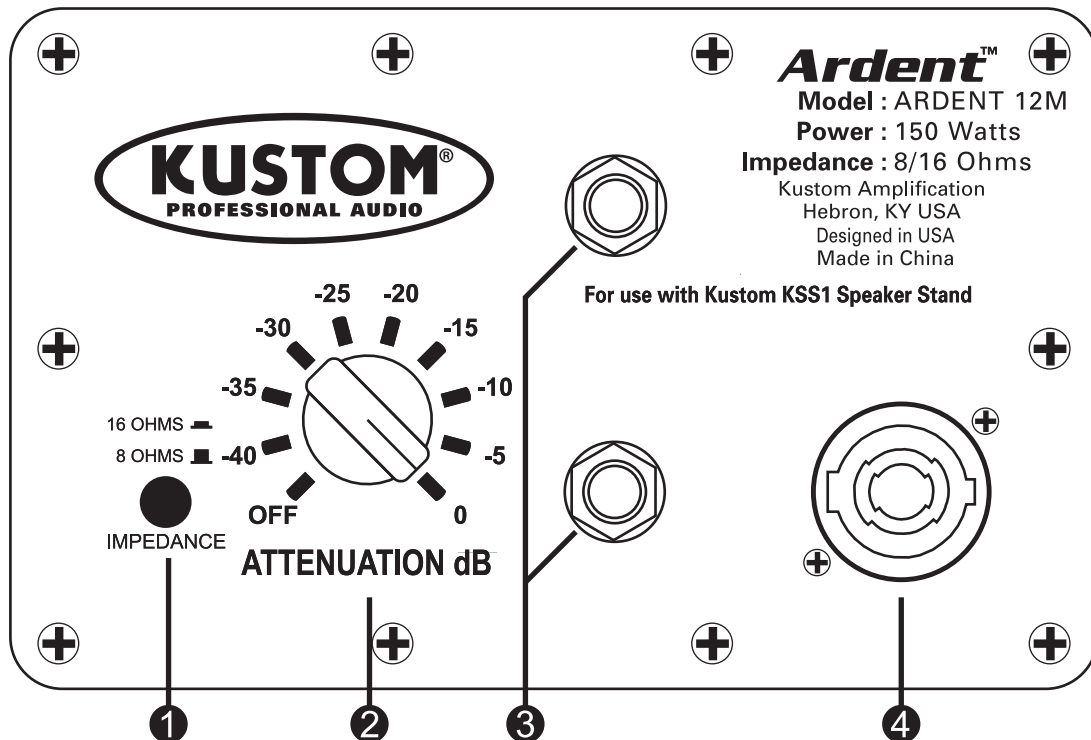
AFIN DE REDUIRE LES RISQUE D'INCENDIE ET DE DECHARGE ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

IMPORTANTES INSTRUCTIONS DE SECURITE

1. Lire avec attention toutes les recommandations et precautions d'emploi avant d'utiliser ce produit.
2. Toutes les recommandations et precautions d'emploi doivent etre conservees afin de pouvoir s'y reporter si necessaire.
3. Lire et comprendre tous les avertissements enumerés dans les precautions d'emploi.
4. Suivre toutes les precautions d'emploi pour utiliser ce produit.
5. Ce produit ne doit pas etre utilise pres d'eau, comme par exemple baignoires, eviers, piscine, sous-sol humides ... Etc.
6. Utiliser exclusivement un chiffon sec pour nettoyer ce produit.
7. Ne bloquer aucune ouverture de ventilation. Ne pas placer le produit tout contre un mur ou dans une enceinte ferree, cela generait le flux d'air necessaire au refroidissement.
8. Ne pas placer le produit pres de toute source de chaleur telle que radiateurs, arrivees d'air chaud, fourneaux ou autres appareils generant de la chaleur (incluant les amplificateurs producteurs de chaleur).
9. Ne pas negliger la securite que procure un branchement polarise ou avec raccordement a la terre, Un branchement polarise comprend deux fiches dont l'une est plus large que l'autre. Un branchement a la terre comprend deux fiches plus une troisieme reliee a la terre. Si la fiche secteur fournie ne s'insert pas dans votre prise de courant. consulter un 'electricien afin de remplacer votre prise obsolete.
10. Protéger le cordon d'alimentation de tout ecrasement ou pincement, particulierement au niveau des fiches, des receptacles utilises et a l'endroit de sortie de l'appareil. Ne pas casser la fiche de terre du cordon d'alimentation.
11. Utiliser uniquement les accessoires specifies par le constructeur.
12. Utiliser uniquement avec le chariot de transport, le support, le trepied, la console ou la table specifies par le constructeur ou vendus avec l'appareil. Lors de l'utilisation d'un chariot, bouger avec precaution l'ensemble chariot/appareil afin d'éviter les dommages d'un renversement.
13. Débrancher cet appareil lors d'orages ou s'il n'est pas utilisé pendant une longue période.
14. Des precautions doivent etre prises afin qu'aucun objet ne tombe et qu'aucun liquide ne se repande a l'interieur de l'appareil par les orifices de ventilation ou n'importe quelle autre ouverture.
15. Pour toutes interventions techniques s'adresser a un technicien qualifie. L'intervention technique est necessaire lorsque l'appareil a ete endommage de n'importe quelle facon, comme par exemple si le cordon secteur ou sa fiche sont deteriorés, si du liquide a coule ou si des objets sont tombés a l'interieur de l'appareil, si l'appareil a ete expose a la pluie ou a l'humidite, s'il ne fonctionne pas normalement ou s'il est tombe.
16. ATTENTION: Pour reduire le risque d'incendie ou de choc electrique ne pas exposer l'appareil a la pluie ou a l'humidite.

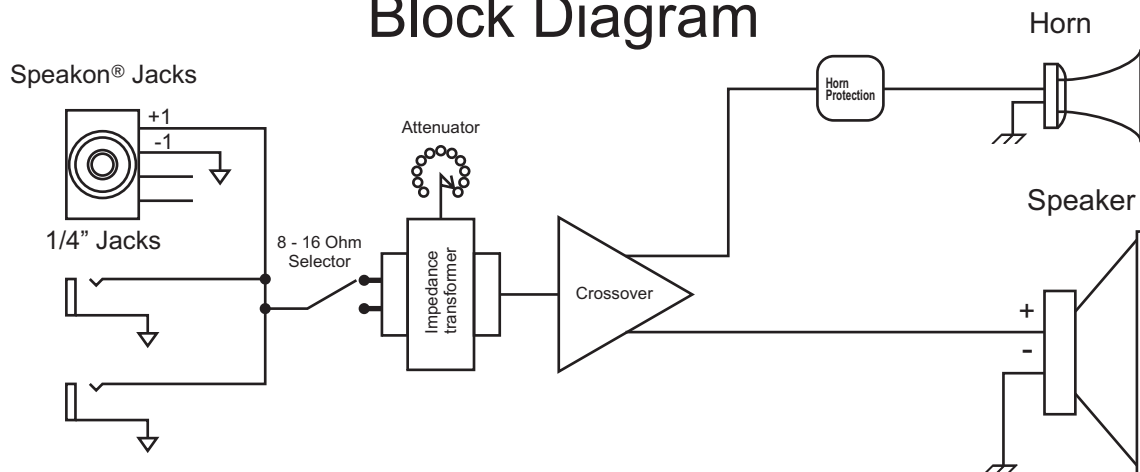


BACK PANEL DIAGRAM



- ① This switch uses the internal matching transformer to select the impedance of your Ardent™ 12M. It does not affect speakers plugged into jacks (③ ④). NOTE: The speaker acoustical output will drop 3dB when switched to 16 ohms. This is because the load on the amplifier driving the Ardent™ 12M is ½ that of the 8 ohm setting.
- ② This Multi-position switch uses the internal matching transformer to attenuate (lower) the volume of the Ardent™ 12M. It does not affect speakers plugged into jacks (③ ④). It also reduces the amplifier load.
- ③ These 1/4" jacks are used to connect the speaker cabinet to an amplifier, such as a powered mixer or power amp. These jacks are wired in parallel, so they can be used to connect to another speaker cabinet.
- ④ This jack accepts Neutrik Speakon® connector. Pins +1 and - 1 are used. This jack is also wired in parallel with the 1/4" jacks (③).

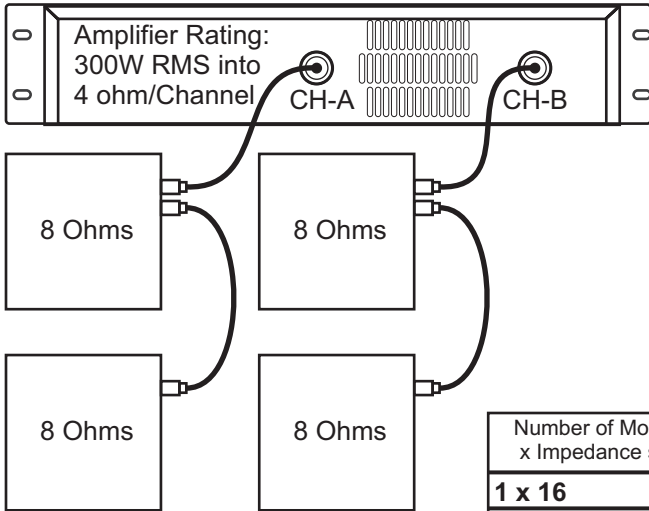
Block Diagram



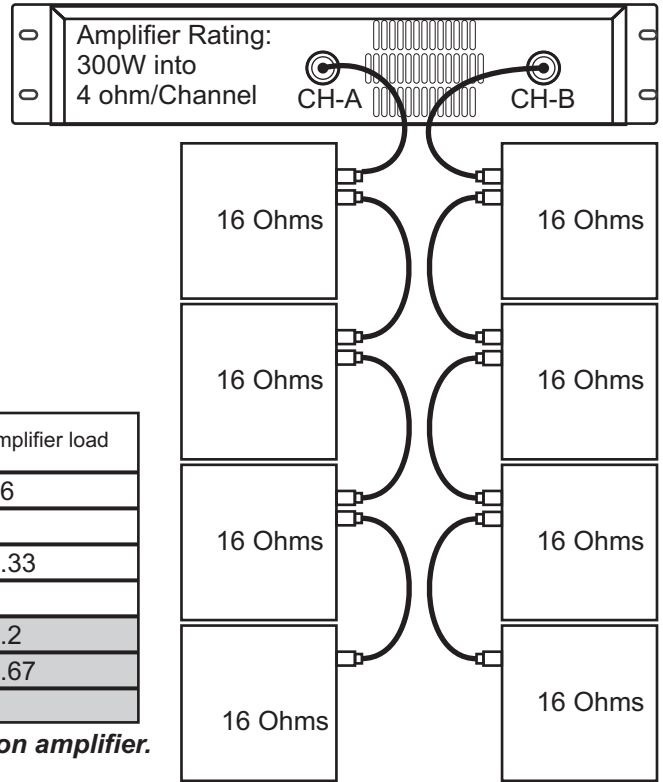
TYPICAL SET UP

Impedance:

Impedance switch set to 8 ohms
 Each monitor receives up to 150 watts.
 Amplifier load = 4 ohm/Channel



Impedance switch set to 16 ohms
 Each monitor receives up to 75 watts.
 Amplifier load = 4 ohm/Channel



Number of Monitors x Impedance selected	Amplifier load
1 x 16	16
1 x 8 or 2 x 16	8
1 x 8 and 1 x 16	5.33
2 x 8 or 4 x 16	4
2 x 8 and 1 x 16	3.2
3 x 8 or 6 x 16	2.67
4 x 8 or 8 x 16	2

Chart to determine load on amplifier.

NOTE:

It is more efficient to use a two channel amplifier in combined/4 ohm mode with monitor impedance set to 8 ohms, than in bridge/8 ohm and set to 16.

CAUTION:

Maximum input to one monitor cannot exceed 150W RMS/8 ohms (34.6VRMS).
 Do not load the amplifier to an impedance lower than recommended. Typically, this is 4 ohms.

Attenuation:

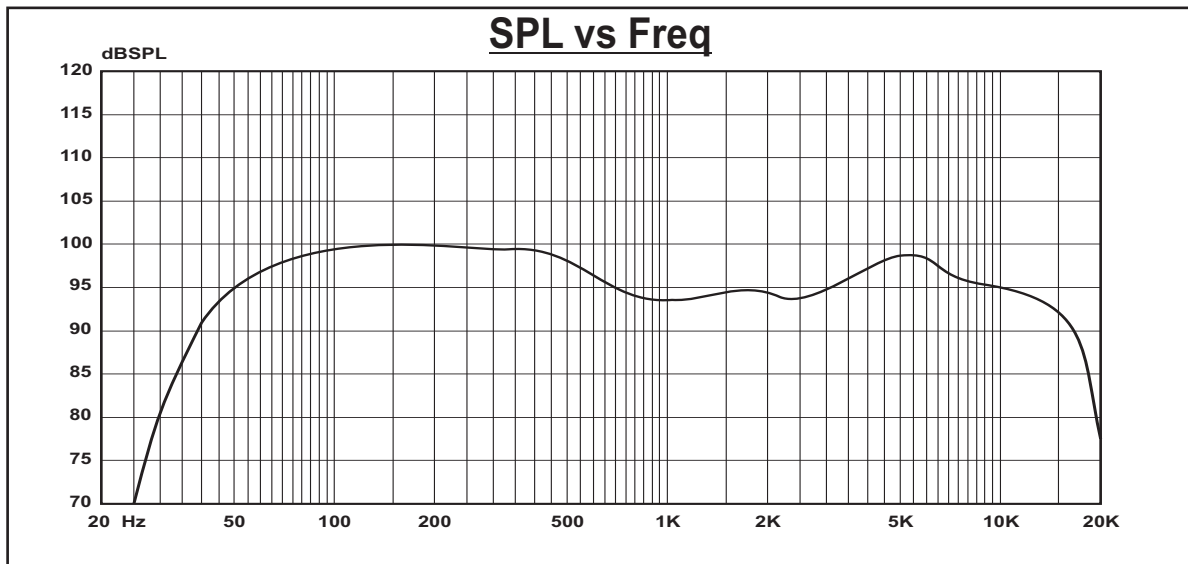
- ① Using the above diagram chart as reference, connect monitors to amplifier. Maximum input to each monitor cannot exceed 150W RMS/8 ohms (34.6VRMS).
- ② Set attenuator on all monitors to 0 dB.
- ③ Do a sound check to set volume to desired level.
- ④ Use attenuator to lower volume on monitors that do not need to be as loud, or have problems with feedback.

NOTE:

When an amplifier channel is used for driving only monitors with attenuators, it is best to have at least one of them set to 0dB. If this cannot be achieved, set attenuator on the monitor that needs to be loudest to 0 dB and adjust level on power amp input to make this monitor the correct volume. Attenuate only monitors that do not need to be as loud.

Ardent 12M Specifications

Model	Ardent 12M	150 Watt Passive Speaker
Power Handling	RMS/Peak	150 Watts / 300 Watts
Speaker	12"	Special Design
Horn Type	1"	Neodymium Compression Driver
Frequency Response	45 - 18K	Actual response may vary depending on input.
Sensitivity	97dB	1 Watt / 1 Meter
Impedance	8 -16 Ohm Selectable	Nominal
Crossover Frequency	2.2 KHz	High Pass / Low Pass With Horn Protection Circuit
Dimensions	mm	??? (Height) x ??? (Width) x ??? (Depth)
	Inches	??? (Height) x ??? (Width) x ??? (Depth)
Weight	kg	?? kg
	lbs	?? lbs



Note: Kustom does not supply mounting hardware for Ardent™ speakers. For safety purposes, be sure to utilize professional mounting procedures and materials for these, or any, speaker systems.

EC Declaration of Conformity

We: Kustom Musical Amplification Inc.
PO. Box 568
Hebron, Ky 41048-0568
Tel: 1-513-451-5000 Fax: 1-513-347-2192

Declare that the product

Product name: Kustom

Product model number: Ardent 12M

to which this declaration relates is in conformity with the following standards;

EN55013 (A12) : 1995	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment.
EN55020: 1995	Electromagnetic immunity of broadcast receivers and associated equipment.
EN61000-3-2: 1995	Limits for harmonic current emissions (equipment input current \leq 16A per phase).
EN61000-3-3: 1995	Limitation of voltage fluctuations and flicker in low voltage supply systems for equipment with rated currents \leq 16A.
EN55103-1: 1995	Electromagnetic Compatibility - Product family standard for Audio, Video Audio-visual and entertainment Lighting Control Apparatus.
EN60065: 1994	Safety requirements for main operated electronic and related apparatus for household and similar general use.

Following the provisions of EU Council Directive(s): 72/73 EEC and 89/336/EEC.

We the undersigned, hereby declare that the equipment specified above conforms to the aforementioned directive(s).

Name of authorized person: James Brown, Chief Engineer

Signature:  Date: 07 May 2007

Kustom Amplification Inc.
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Tel: 1-513-451-5000 Fax: 1-513-347-2192

